

Northwest Electric Showcase

Principal Investigator: Zach Henkin

Presenter: Zach Henkin

Organization: Forth

June 19, 2018

Project ID: TI084



This presentation does not contain any proprietary, confidential, or otherwise restricted information.

**All data contained in this presentation is current as of April 2018, unless otherwise noted.*

Overview

Timeline

- Project Start: October 1, 2016
- Project End: October 1, 2019
- ~60% Complete

Barriers

- Lack of awareness for BEVs and PHEVs available for sale in PNW
- General lack of technical expertise with plug-in vehicle technologies

Budget

- Total Project: \$2,290,240
 - DOE share: \$993,450
 - Cost share: \$1,296,790
- Budget Period 1: \$380,703
 - Expended: \$380,703
- Budget Period 2: \$312,291
 - Expended: \$166,562 (to date)

Partners

- Cities of Portland & Seattle
- PNW Electric Utilities
- Columbia Willamette & Western-Washington Clean Cities
- EVSE (e.g. eMotorWerks)
- Automakers (e.g. Honda)
- Oregon New Car Dealers Assoc.

Project Objectives

Top Objectives

- Reduce reliance on imported oil, increase fuel diversity and transportation efficiency by adoption of 33,000 plug-in vehicles in Pacific Northwest by 2020 (14,500 currently adopted)
- Increase PEV sales across PNW to $\geq 15\%$ of all new cars sold by 2025
- Launch a physical “Northwest Electric Showcase” in downtown Portland
- Deliver “pop up” ride and drive events throughout Oregon and Washington
- Develop a consumer awareness campaign including; increasing awareness to utilities, low and moderate income drivers, fleets and employers

Impact

- Improve technology knowledge to increase consumer confidence
- Offer regular “ride and drive” opportunities to increase access to BEV/PHEVs
- Increase technology and product knowledge for key stakeholders (e.g. utilities)

Supports VTO Technology Integration Goals

- National Security
- Economic Growth
- Affordability for Business and Consumers
- Reliability/Resiliency

Project Approach – 3 Elements

Physical

EV Showroom located in
Downtown Portland, Oregon

- Open 6 days a week
- Staffed by brand neutral employees and volunteers

Mobile

"Pop up" plug-in ride & drives
conducted throughout Oregon and
Washington

- Partnering with utilities, non-profits, and many others
- Coordinated marketing

Virtual

Educating and inspiring using
online tools and social platforms

- DriveFinder tool
- 360° EV Showroom viewer
- EV 101 materials

• NREL Data Collection with projects throughout US

- Pre-Drive Questionnaire
- Post-Drive Questionnaire
- Follow-up Questionnaire

• Lessons Learned Reports

- Opening a physical EV showroom
- Increase awareness and training to consumers
- Best practices for fleets

Project Approach

Budget Period 1

Task 1.0 – Project Reporting & Communications

Task 2.0 – Develop Showcase

Task 3.0 – Develop Regional "Pop Up" Showcase Program

Task 4.0 – Develop Consumer Awareness Campaign

Task 6.0 – Develop Utility Partnerships to Drive Showcase Participation

Go/No Go: 1> Showcase event and >3 "Pop up" events completed with lessons learned documented

Budget Period 2

Task 3.0 – Develop Regional "Pop Up" Showcase Program

Task 4.0 – Develop Consumer Awareness Campaign

Task 5.0 – Deploy Focused Campaign for Low & Moderate Income Drivers

Task 6.0 – Develop Utility Partnerships to Drive Showcase Participation

Task 7.0 – Engage Regional Employers

Task 8.0 – Expand Fleet Adoption of PEVs.

Task 9.0 – Develop Sustainable Long Term Funding Model

Go/ No Go: >12 "Pop-up" events completed

Project Approach

Budget Period 3

Task 3.0 – Develop Regional “Pop Up” Showcase Program

Task 4.0 – Develop Consumer Marketing Campaign

Task 5.0 – Deploy Focused Campaign for Low & Moderate Income Drivers

Task 6.0 – Develop Utility Partnerships to Drive Showcase Participation

Task 7.0 – Engage Regional Employers

Task 8.0 – Expand Fleet Adoption of PEVs

Task 9.0 – Develop Sustainable Long Term Funding Model

**Any proposed future work is subject to change based on funding levels*

Important Milestones

- ✓ Develop Showcase in Portland
- ✓ Develop “Pop Up” Showcase
- ✓ Develop Consumer Awareness Campaign
- ✓ Develop Utility Partnerships
- ✓ Low and Moderate Income Campaign

Planned 2018/2019 Milestones

- Develop Sustainable Long Term Funding Model
- Strengthen “Workplace Charging Ambassadors”
- Deploy Targeted Community Partnerships

Milestones

Budget Period 1	Budget Period 2	Budget Period 3
<p>Kickoff Meeting with USDOE ✓</p> <p>First Meeting of NW Stakeholders Coalition ✓ Final Project Report Complete ✓ Showcase space complete ✓ All staff and volunteers hired and trained ✓</p> <p>Partnerships for the Showcase are finalized ✓</p> <p>All vehicles leased ✓ Templates, plans materials complete ✓ Complete schedule of events for first period ✓</p> <p>Delivery of at least 3 events ✓ Produce "Lessons learned" report ✓ Toolkit for partner organizations produced ✓</p> <p>Animated Video produced ✓ Promotion at Portland Auto Show ✓ First Chinook Book promotion launched ✓ First paid social media campaign launched ✓</p> <p>"Lessons learned" report ✓ First meeting of Utility work group ✓</p>	<p>Delivery of 12 events for year</p> <p>Agreements in place with Community Based Organizations ✓ Airing of First Radio Spots ✓</p> <p>Utility Toolkit produced ✓</p> <p>Utility Engagement Website deployed</p> <p>20 or more Employers join Workplace Charging Challenge</p> <p>Best Practices Guidelines for Fleets ✓</p> <p>Deploy Pop-up "Extra Hour" ✓</p> <p>Deploy Tailored Pop-ups for fleets ✓</p> <p>"Lessons learned" report on fleets</p>	<p>Delivery of 12 events for year</p> <p>"Lessons Learned" report on community Outreach</p> <p>Secure Formal Funding Agreement with Utility</p> <p>Secure Formal Funding Agreement with Utility</p> <p>Regulatory Agreement for Drive Oregon to aggregate Clean Fuels ✓</p>

**Any proposed future work is subject to change based on funding levels*

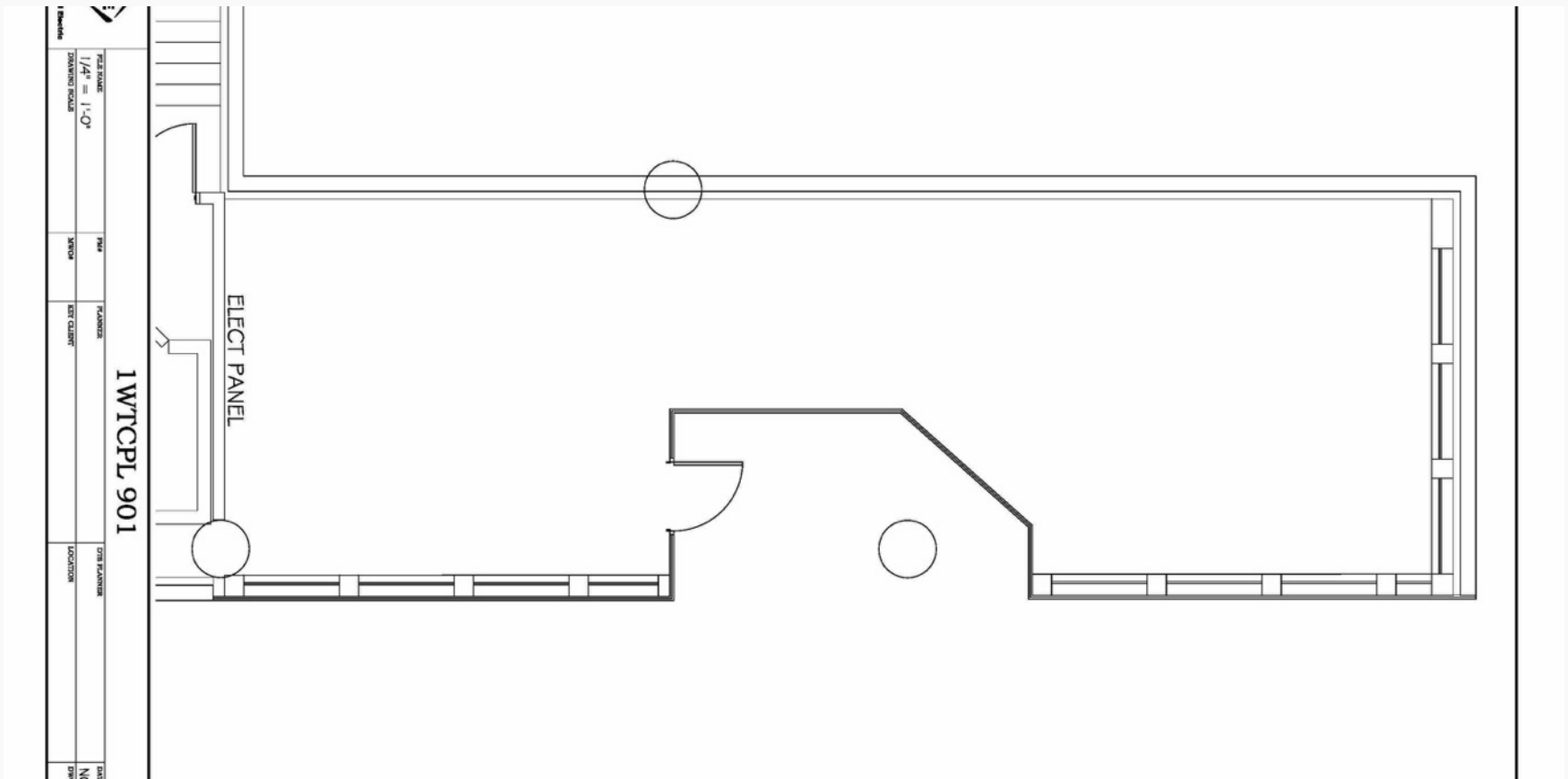
Accomplishments & Progress

Go Forth Electric Showcase



Accomplishments & Progress

Buildout included multiple requests for proposals and was accomplished in ~6 months.



Accomplishments & Progress

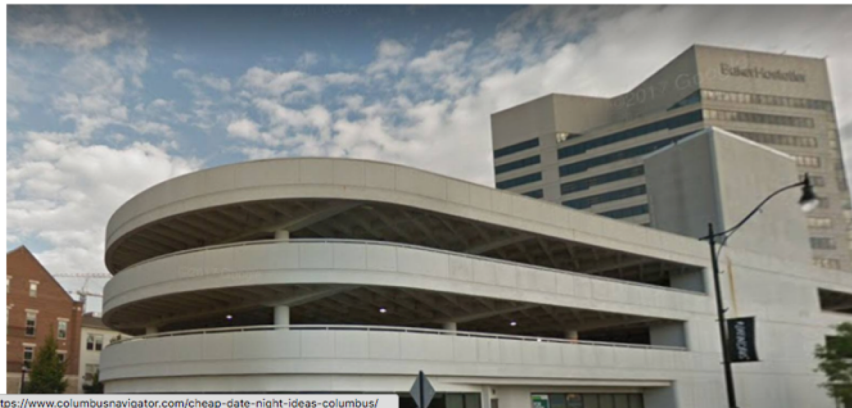
Task 2: EV Showroom– 901 SW 1st Avenue Portland, OR

“It’s nice to talk to real life people... and have your questions answered.”

SMART COLUMBUS

Smart Columbus announced plans to open the Smart Columbus Experience Center, a massive transportation learning destination.

The project is expected to cost \$1,000,000. Although some funding will come from the \$10 million grant Smart Columbus won as part of the Smart Cities Initiative in 2016, the budget will also be bolstered by private investments. Additionally, Smart Columbus has requested some funding from the State of Ohio Capital Bill.



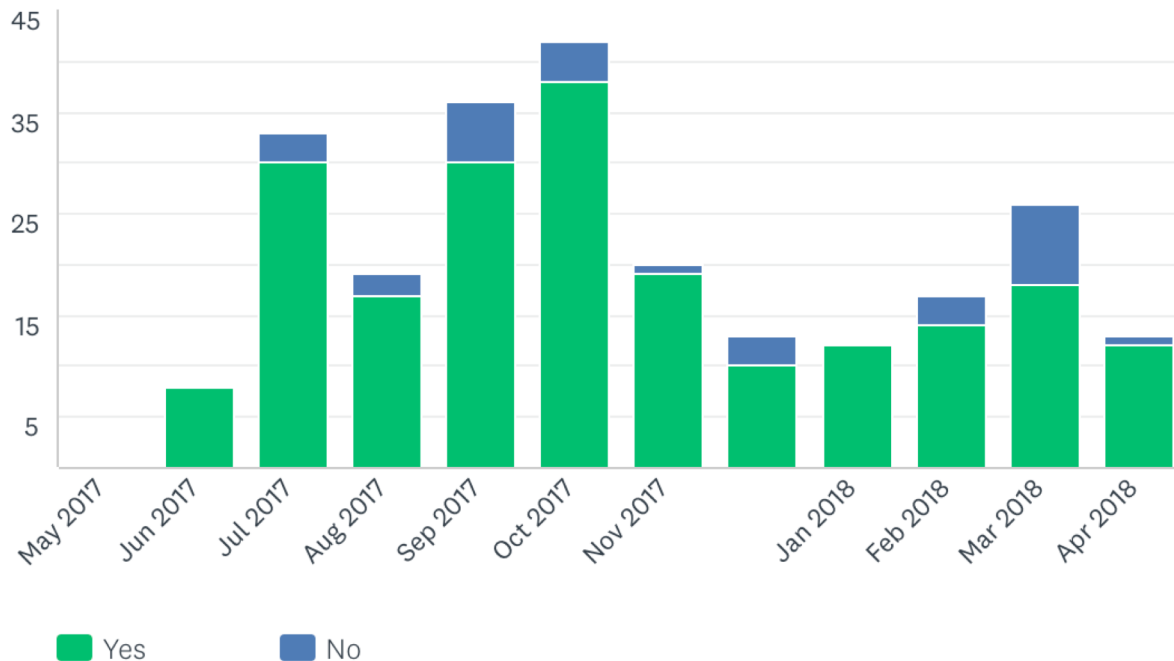
- Approximately 2500 visitors (to date)
- Provides a reliable source for information on plug-in vehicles and charging
- Test drive a variety of plug-in vehicles with no sales pressure, 6 days a week
- Includes a “Digital Showcase” with guidance for choosing an EV
- Serves as a destination for tours, field trips, and events reaching a wide audience

image: Screenshot of Smart Columbus Experience Center article taken from the Columbus Navigator, 2018. <https://www.columbusnavigator.com/smart-columbus-experience-center/>

Accomplishments & Progress

Task 3: Regional "Pop Up" Showcase Program

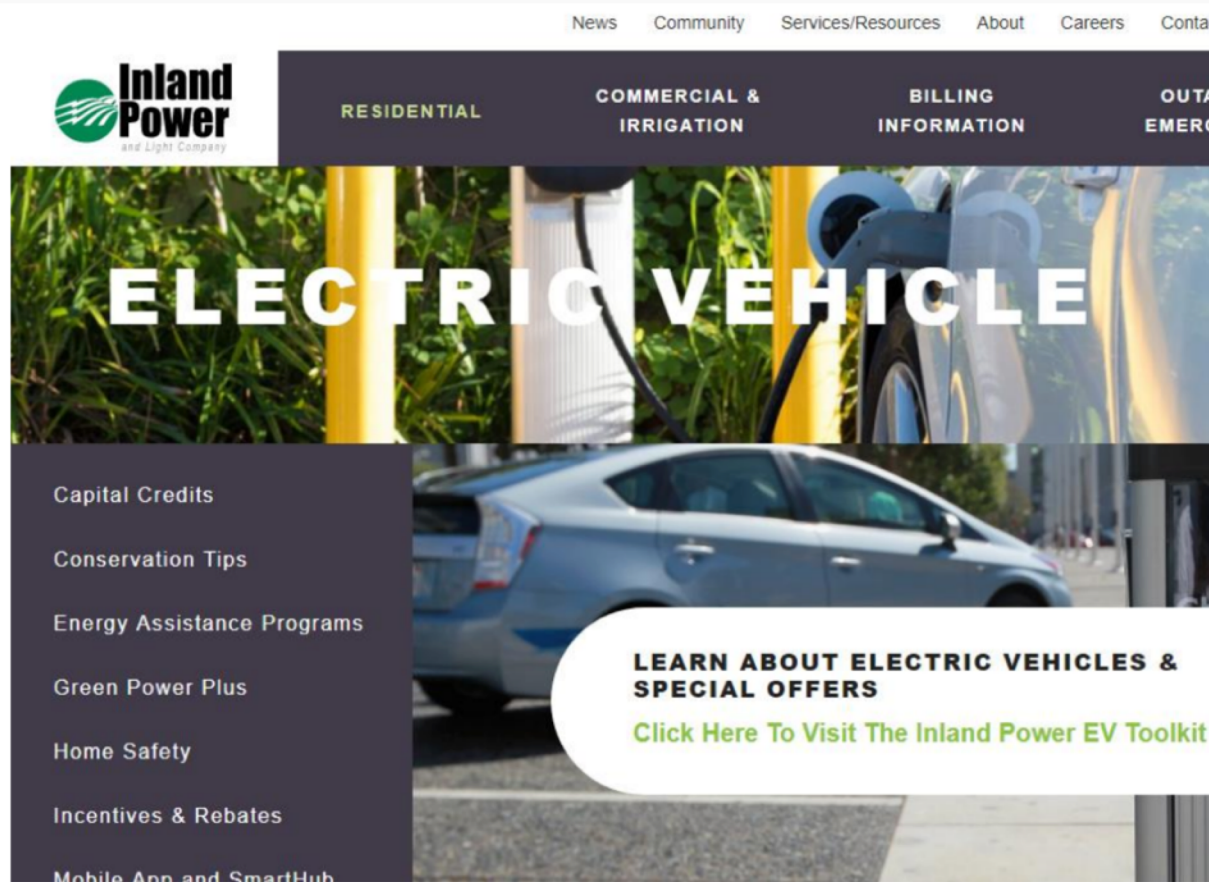
Do you expect to consider a BEV for your next vehicle? Data shows **yes!**



- Approximately 500 test drives (to date)
- Ride & Drives throughout Oregon and Washington with a variety of engagement partners
- More than 300 test surveys completed
- >100 vehicles sold through Group Buys

Accomplishments & Progress

Task 6: Develop Utility Partnerships



- **Utility Workgroup Webinars held quarterly**
- **Currently engaged with 135 utilities**
- **Utility “tool kit” and EV 101 resources produced**
- **“EV Plans” being implemented by PNW Partners**
- **Selected as the backstop aggregator for Oregon Clean Fuels Program**

image: Screenshot of Inland Power’s Electric Vehicle webpage, 2018.
<https://www.inlandpower.com/residential/incentives-rebates/electric-vehicle>

Collaboration and Coordination Among Project Team

Forth

Jeff Allen - BO
Zach Henkin PMP - PI

Prime

**Brink
Communications**

Sub

**Collaborative
Efficiencies**

Sub

**Western Washington &
Columbia-Willamette
Clean Cities**

Sub

The City of Portland
Portland General Electric
Oregon Auto Dealers Association
Pacific Power
American Honda Motor Company
Clipper Creek
Puget Sound Energy
eMotorWerks
Eugene Water & Electric Board
Chinook Book
Clark Public Utility District
Reach Now
World Trade Center Properties
Metro Portland New Car Dealers Assoc
Point Defiance Zoo & Aquarium
AeroVironment
Delta-Q

Kuni BMW
City of Seattle
Telefonix
Tacoma Power
EV Box

Partners

Collaboration and Coordination Among Project Team

Who is Forth?

- Nonprofit (501c6 & 501c3)
- Mission: Forth is transforming the way we get around
- Experienced at leading projects and engaging the transportation and automotive industries
- Forthmobility.org

Related work that Forth is engaged in:

Uber Electric

[Roadmap Conference](#)

Oregon's Clean Car Rebate

Community Electric Car Project

Community Electric Bike Project

Supporting Electrify America outreach

Review of Columbus Consumer Engagement Work



Collaboration and Coordination Among Project Team

Brink Communications

Sub

Brink Communications provides Marketing, Design, and PR support working with Forth staff and partners to inspire and motivate the public.

Collaborative Efficiencies

Sub

Collaborative Efficiencies brings years of experience working with PNW utilities and assists Forth and partners by engaging electricity providers.

Western Washington & Columbia-Willamette Clean Cities

Sub

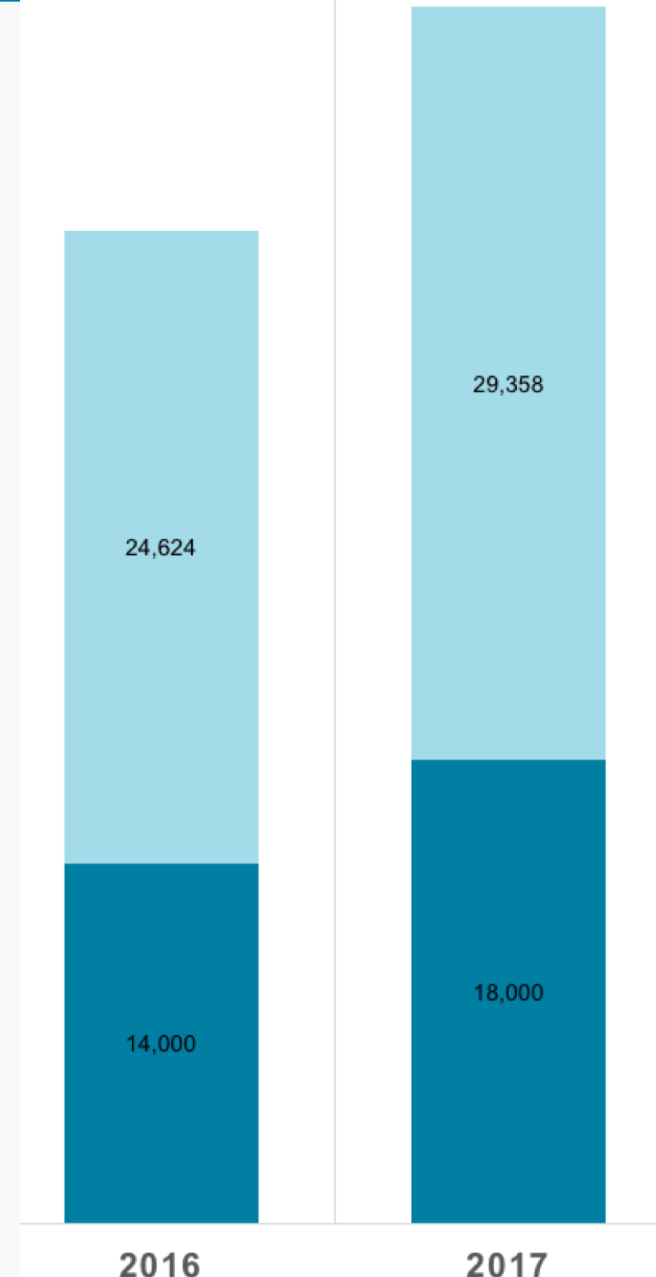
Our regional Clean Cities org's understand and have great relationships with fleets around the region. They extend our messaging to fleet managers.

- Forth hosted kick off meeting for USDOE Showcase project's at EV Roadmap 10 in Portland.
- Forth coordinates with subcontractors weekly via phone and/or email.
- Forth hosts meetings with project partners quarterly to engage on a specific topic (e.g. Utilities, Equity)
- Forth participates in regular USDOE hosted webinar/calls with related Showcase projects

Impact

- On track to increase PEV sales to approx 33,000 per year
- Clean Car Rebate now available in Oregon
- Plug-in Vehicle Incentive expiring in Washington
- 23% Year-over-year sales growth for PNW for first year of project

23%
Sales Growth



Impact

Lessons learned already being applied outside of PNW

- “Smart Columbus Experience Center” designed with input from Forth’s EV Showroom
- Forth’s “EV Showroom” has shown to be of interest of large utilities from around the U.S.
- Utilities in the PNW are increasingly motivated work on PEV programs
 - Pacific Power and Portland General Electric “EV plans” were recently approved
 - Oregon Clean Fuels programs will begin to fund some EV programs
 - Overall interest in utility EV program design, and EV resources is growing
- Lessons Learned Reports and Survey data will inform future projects
 - Program and outreach strategies are replicable by other partners
- Electrify America funded charging stations should arrive soon
- Forth assisting Electrify America with their “Drive & Learn” brand neutral outreach
- Paul G Allen Philanthropies working with Forth to review Columbus Consumer Engagement Work

Summary

Goal

- Increasing annual plug-in electric vehicles (PEV) sales in the Pacific Northwest from approximately 14,500 to approximately 33,000 by 2020
- Create sustainable model

Collaborations

- Utilities in Oregon and Washington
- Clean Cities Organizations
- Community Based Organizations

Project Accomplishments

- First “EV Showroom in the U.S.”
- Utility engagement, sponsorship, and funding
- Replication outside the region using lessons learned from this project
- 23% year-over-year sales growth in first year of project
- Oregon Clean Fuels Aggregation should yield \$300,000 by the end of 2018